Amendments to the Claims

1-90. (Canceled)

91. (Currently Amended) ~~An~~ A mutant MMLV reverse transcriptase comprising a polymerase domain having RNA-dependent DNA polymerase activity and a substitution in the amino acid sequence of the wild type MMLV polymerase domain within SEQ ID NO: 6, wherein amino acid number 1 of SEQ ID NO: 6 is the threonine following the initial methionine, and wherein said reverse transcriptase comprises at least one mutation at an amino acid position selected from the group consisting of Tyr64, Arg116, Lys152, Gln190, Thr197, and Phe309.

92. (Previously Presented) The reverse transcriptase of claim 91, wherein said mutation is at position Tyr64.

93. (Previously Presented) The reverse transcriptase of claim 92, wherein Tyr64 is replaced with a tryptophan.

94. (Previously Presented) The reverse transcriptase of claim 91, wherein said mutation is at position Arg116.

95. (Previously Presented) The reverse transcriptase of claim 94, wherein Arg116 is replaced with a methionine.

96. (Previously Presented) The reverse transcriptase of claim 91, wherein said mutation is at position Lys152.

97. (Previously Presented) The reverse transcriptase of claim 96, wherein Lys152 is replaced with an arginine.

98. (Previously Presented) The reverse transcriptase of claim 91, wherein said mutation is at position Gln190.

99. (Previously Presented) The reverse transcriptase of claim 98, wherein Gln190 is replaced with a phenylalanine.

100. (Previously Presented) The reverse transcriptase of claim 91, wherein said mutation is at position Thr197.

101. (Previously Presented) The reverse transcriptase of claim 100, wherein Thr197 is replaced with an alanine.

102. (Canceled)

103. (Currently Amended) ~~An~~ A mutant MMLV reverse transcriptase comprising a polymerase domain having a Val223 to His223 substitution in the amino acid sequence of the wild type MMLV polymerase domain within SEQ ID NO: 6, wherein amino acid number 1 of SEQ ID NO: 6 is the threonine following the initial methionine. ~~comprising a mutation wherein Val223 is replaced with a histidine~~.

104-106. (Canceled)

107. (Previously Presented) The reverse transcriptase of claim 91, wherein said mutation is at position Phe309.

108-109. (Canceled)

110. (Previously Presented) The reverse transcriptase of claim 107, wherein Phe309 is replaced with asparagine.

111. (Previously Presented) The reverse transcriptase of claim 91 or 103 wherein said reverse transcriptase has substantially reduced RNase H activity.

112. (Currently Amended) The reverse transcriptase of claim 111, wherein said reverse transcriptase comprises at least one mutation at an amino acid position selected from the group consisting of ~~Asp544,~~ Asp583, Glu562, or a combination thereof.

113. (Canceled)

114. (Previously Presented) The reverse transcriptase of claim 112, wherein Asp583 is replaced with asparagines.

115. (Previously Presented) The reverse transcriptase of claim 112, wherein Glu562 is replaced with glutamine.

116. (Previously Presented) The reverse transcriptase of claim 91 or 103, further comprising at least one mutation in the RNase H domain.

117. (Currently Amended) The reverse transcriptase of claim 91 or 103 further comprising at least one mutation selected from the group consisting of ~~Asp544,~~ Asp583, Glu 562, or a combination thereof.

118. (Canceled).

119. (Previously Presented) The reverse transcriptase of claim 117, wherein Asp583 is replaced with asparagine.

120. (Previously Presented) The reverse transcriptase of claim 117, wherein Glu562 is replaced with glutamine.